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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/554,000

10/21/2005

Jeong Won Choi

2729-174

6574

22429

7590

07/14/2008

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EXAMINER

KASTURE, DNYANESH G

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

07/14/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/554,000	<b>Applicant(s)</b> CHOI, JEONG WON	
	<b>Examiner</b> DNYANESH KASTURE	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>21 Oct 05, 05 Oct 07</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al (US Patent 5,921,756 A) and in view of Yokomachi et al (PG Pub US 20010007635 A1)

Figure 7 of Matsuda et al

Fig.7

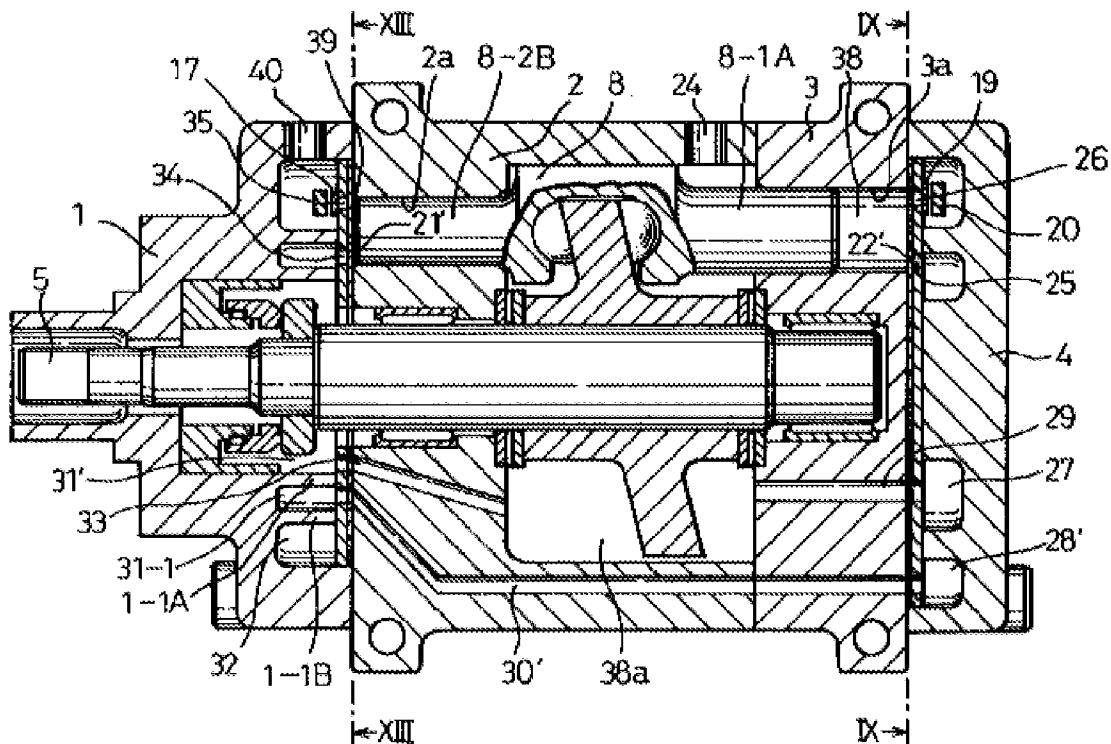
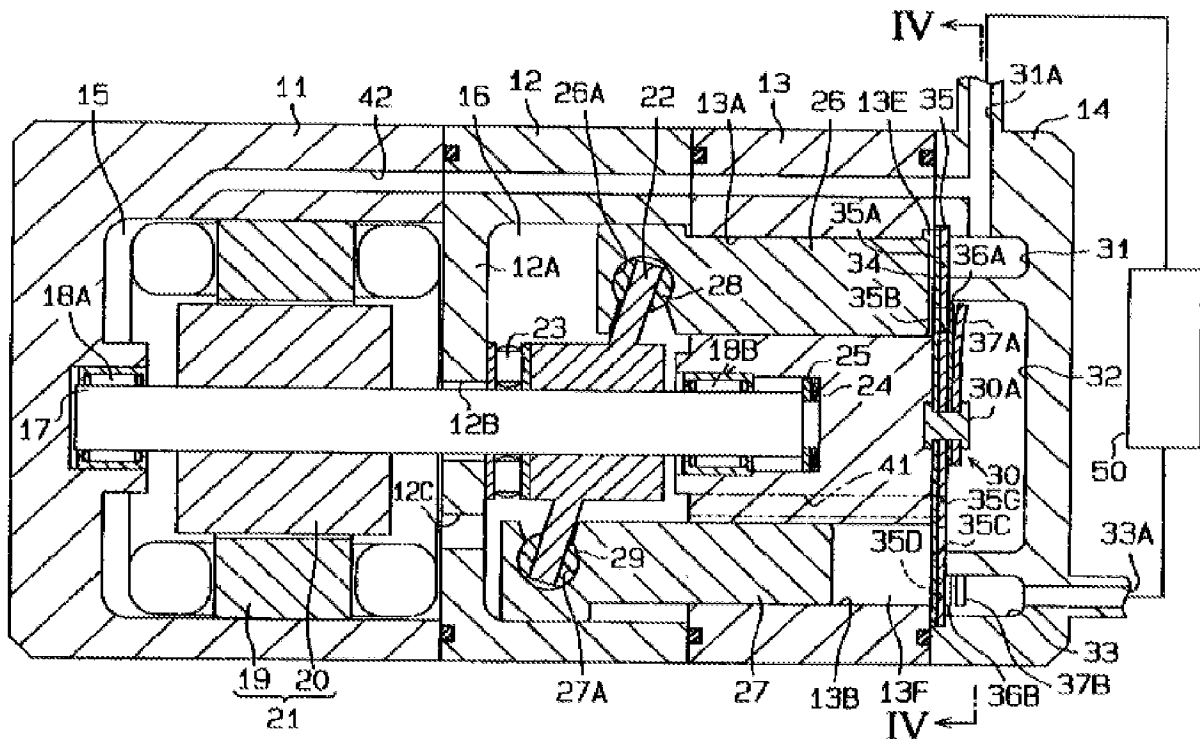


Fig. 8 of Yokomachi et al

Fig. 8



3. In Re claim 1, with reference to Figure 7 depicted above, Matsuda et al discloses a compressor (title) with a swash plate (6) driven by motive shaft (5) comprising:
- a front housing (4) having a front discharge chamber (28') for discharging a firstly compressed refrigerant
  - a rear housing (1) having a rear suction chamber (31-1) communicating with the front discharge chamber (28') to receive the firstly compressed refrigerant and a rear discharge chamber (32) for discharging secondly compressed refrigerant, the rear suction chamber and rear discharge chamber divided by a partition (1-1B)
  - a cylinder block (2, 3) disposed between the front and rear housings, the cylinder block provided with a swash plate chamber (38a) receiving the swash plate, a plurality

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of bores (2a, 3a) in which respective pistons (8) are slidably installed, a discharge gas passage (30') for assigning a refrigerant flow between the front and rear housings

- a plurality of dual headed pistons (Column 7, Line 30 states: “..three pistons..”) reciprocating in the bore due to the inclination of the swash plate
- a driving shaft mounted in the cylinder block (Column 3 line 13 states: “..rotating shaft 5 with a rotating source..”)

4. However, Matsuda et al does not disclose a motor chamber formed adjacent to one of the front or rear housings having a motor to rotate the driving shaft.

5. Nevertheless, with reference to Figure 8 depicted above, Yokomachi et al discloses a motor driven compressor unit (11) comprising:

- a motor (21) inside a motor chamber (15) adjacent to a front housing (12), the motor provides driving power to rotate a drive shaft (17)

6. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the compressor unit of Matsuda et al to include a motor chamber adjacent the front housing to include a motor for driving the shaft as taught by Yokomachi et al for the purpose of producing a compact, reduced weight swash plate compressor which can efficiently cool down a motor chamber as stated by Yokomachi et al in the abstract.

7. In Re claims 2, 3 and 4, Yokomachi et al discloses passage (12C) to allow the swash plate chamber to communicate with the motor chamber, and a suction passage (42) that allows the motor room to communicate with the cylinder bores.

8. In Re claim 5, Matsuda et al discloses the front housing (4) further comprises a front suction chamber (27) communicating with the swash plate chamber (38a) through a low pressure communication passage (29) formed on the cylinder block (3).

9. In Re claim 6, Yokomachi et al discloses the rear suction chamber (31) is formed around the rear discharge chamber (32) of the rear housing (14).

10. In Re claim 8, Matsuda et al discloses a discharge gas passage (30') to allow the front discharge chamber (28') to communicate with the rear suction chamber (31-1).

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al (US Patent 5,921,756 A) in view of Yokomachi et al (PG Pub US 20010007635 A1) and further in view of Steele et al (US Patent 4,929,157 A)

12. In Re claim 7, Yokomachi et al discloses discharge chamber (33) provided with an indication of a discharge pipe as depicted at outlet (33A) in the rear housing (14) however, Matsuda et al modified by Yokomachi et al does not explicitly disclose the discharge pipe as one that reduces discharge pressure pulsation.

13. Nevertheless, Steele et al discloses a discharge tube (21) is disposed in a discharge passage of a swash plate compressor so as to reduce discharge pressure pulsation.

14. It would have been obvious to a person having ordinary skill in the art at the time of the invention to further modify the outlet of the compressor of Matsuda et al modified by Yokomachi et al to include a discharge tube at the outlet as taught by Steele et al for the purpose of reducing discharge pressure pulsation as taught by Steele et al (see abstract).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Higashiyame (US Patent 7,076,963 B2) discloses a two stage compressor, one stage driven by an automobile engine and the other stage driven by an electric motor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DNYANESH KASTURE whose telephone number is (571)270-3928. The examiner can normally be reached on Mon-Fri, 9:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272 - 7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
Unit 3746

DGK